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### **REMARKS**

Applicant has carefully reviewed and considered the Office Action mailed on December 15, 2008, and the references cited therewith.

In amended Figure 1, new reference numbers 201, 203, 205, 207, and 209 and corresponding features have been added to reflect elements in the claims.

In the specification, paragraphs have been amended to incorporate the new reference numbers added to Figure 1.

The title has been amended to be more descriptive.

Claims 1, 12, 31, 32, and 45 are amended. Claims 1, 2, 4-27, 30-47, 49-61 remain pending in this application.

#### **Drawing Objections**

The drawings were objected to under 37 CFR §1.83(a) for failing to show every feature of the invention specified in the claims. Figure 1 has been amended to include feature stream 201, threshold detection 203, indications 205, threshold determination 207, and event detection 209. Applicant believes that the above amendments to the drawings overcome the Examiner's objections. Reconsideration of these objections is respectfully requested.

#### **Specification Objections**

The title of the invention is objected to for not being descriptive. The title has been amended in accordance with the Examiner's suggestions. Applicant believes that the above amendments to the title overcome the Examiner's objections. Reconsideration of this objection is respectfully requested.

#### **Claim Objections**

Claim 31 was objected to under 35 USC §1.75(c), as being of improper dependent form failing to further limit the subject matter of a previous claim. Claim 31 has been amended herein. Applicant believes the above amendments to claim 31 overcome the Examiner's objections. Reconsideration of this objection is respectfully requested.

Claim 1 was objected to for informalities. Claim 1 has been amended herein. Applicant believes that the above amendments to claim 1 overcome the Examiner's informality objections. Reconsideration of this objection is respectfully requested.

35 USC § 112 Rejection of the Claims

Claims 1, 15, 32 and 46 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1, 15, 32, and 46 have been amended herein. Applicant believes that the above amendments to claims 1, 15, 32, and 46 overcome the Examiner's indefiniteness rejections. Reconsideration of these rejections is respectfully requested.

35 USC § 103 Rejection of the Claims

Claims 1, 2, 4-10, 13-23, 26, 27, 30-47 and 49-61 were rejected under 35 USC § 103(a) as being unpatentable over Meyer et al. ("A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks", 1996) in view of Lipton et al. (U.S. Publication No. 2005/0146605).

Claims 11 and 24 were rejected under 35 USC § 103(a) as being unpatentable over Meyer et al. ("A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks", 1996) in view of Lipton et al. (U.S. Publication No. 2005/0146605), and further in view of Wang et al. (US Patent No. 6,266,369).

Claims 12 and 25 were rejected under 35 USC § 103(a) as being unpatentable over Meyer et al. ("A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks", 1996)) in view of Lipton et al. (U.S. Publication No. 2005/0146605), and further in view of Seeley et al. (US Patent No. 6,069,655).

According to independent claim 1, the present invention is directed to a method for performing event detection and object tracking in image streams. An event is defined as the occurrence of a type of activity which requires some type of action in response thereto. A set of image acquisition devices is installed in field. Each image acquisition device comprises a local programmable processor for converting the acquired image stream (consisting of one or more images) to a digital format. A local encoder generates features from the image stream and transmits a feature stream containing the features. Features are parameters related to attributes of areas in the image stream.

Each image acquisition device is connected to a data network through a corresponding data communication channel.

An image processing server is connected to the data network.

Prior to detecting an event, the feature stream is transmitted from the image acquisition device to the image processing server whenever at least one of a number and type of features exceed a predetermined threshold.

The threshold is applied to the image acquisition device to control when the local encoder generates and transmits the feature stream. The number and type of features exceeding the threshold are indicative of activity to be further analyzed by the image processing server in order to detect the event.

The threshold is determined by the image processing server.

*The event is detected from analyzing the feature stream by the image processing server.*

Indications regarding the event in the image streams are transmitted by the image processing server to an operator.

Independent claims 15, 32, and 46 also recite a similar event detection step.

The Examiner admits that Meyer does not disclose the step of detecting the event from analyzing the feature stream by the image processing server. However, the Examiner states that Lipton discloses such step, referring to Fig. 4, element 42 and 44 and Fig. 1, element 11.

Paragraph 0118 of Lipton states that “event occurrences are extracted from the video primitives using event discriminators.... The event discriminators are used to filter the video primitives to determine if any event occurrences occurred.”

Applicant respectfully disagrees with the Examiner’s interpretation of Lipton.

In paragraph 0080, Lipton defines a video primitive as “... an observable attribute of an object viewed in a video feed. Examples of video primitives include the following: a classification, a size, a shape, a color, a texture...”. Lipton does not relate in any way to the method in which these video primitives are created and leaves this out of the context of the invention. Thus, it is impossible to infer from this application what an efficient method for creating said primitives would be.

The present invention, on the other hand and using the terms of Lipton, deals with the ability to create the video primitives in an efficient and scalable manner. The task that is referred to in Fig. 4 step 42 of Lipton as “extract video primitives” is actually performed in the present invention in a distributed manner -- what is called “feature extraction” is performed at the encoder (the edge device) and sent over the network to the server. The server then analyzes these features and creates what amounts to “video primitives” from this analysis. Since the creation of the video primitives is the most computationally intensive task in this entire system, the notion that this task can be distributed in order to increase system efficiency is a critical one and can in no way be inferred by combining Meyer and Lipton.

Respectfully, the mistake the Examiner is making is in aligning Fig. 4 step 42 “video primitive” creation of Lipton with the “feature extraction” process of the present invention and aligning step 44 “extract event occurrences” of Lipton with the server side analysis of the present invention. This is clearly not the case and it is made more obvious by the fact that Lipton does

not claim and cannot be shown to achieve any of the computational efficiency gains provided by the present invention.

For the foregoing reasons, Applicant believes that the subject matter of amended independent claims 1, 15, 32, and 46 are not rendered obvious by Meyer in view of Lipton. The Wang and Seeley references do not cure these deficiencies. Reconsideration of the rejections of claims 1, 15, 32, and 46 is respectfully requested.

Claims 2, 4-14, 16-27, 30, 31, 33-47, and 49-61 depend from and add further limitations to amended independent claims 1, 15, 32, and 46 or a subsequent dependent claim and are believed to be patentable for the reasons discussed hereinabove in connection with amended independent claims 1, 15, 32, and 46. Reconsideration of the rejections to claims 2, 4-14, 16-27, 30, 31, 33-47, and 49-61 is respectfully requested.

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**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (412.325.3316) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3790.

Respectfully submitted,

TALMON *et al.*

By their Representatives,

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